

**REPORT TO THE TWENTY-FIFTH LEGISLATURE
STATE OF HAWAII
2010**

SOLID WASTE MANAGEMENT

PURSUANT TO SECTION 342G-15, HAWAII REVISED STATUTES
REQUIRING THE OFFICE OF SOLID WASTE MANAGEMENT TO GIVE AN
ANNUAL REPORT ON SOLID WASTE MANAGEMENT

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Table of Contents

	Executive Summary.....	Page 1
I.	Introduction.....	Page 2
II.	Solid Waste Management.....	Page 2
	State Solid Waste Management Priorities and Practices	
	Solid Waste Disposal and Diversion Rates	
III.	Office of Solid Waste Management Activities.....	Page 4
	Deposit Beverage Container Program	
	Glass Advance Disposal Fee Program	
	Motor Vehicle Tire Surcharge Program	
	Construction & Demolition Waste Minimization and Diversion Outreach	
	County Solid Waste Management Planning Activity	
IV.	Solid Waste Management Program Funding.....	Page 6
	Solid Waste Management Disposal Surcharge	
	Increasing Costs	
	Decreasing Revenue	
V.	New Issue: Greenhouse Gasses.....	Page 8
VI.	Summary.....	Page 8

EXECUTIVE SUMMARY

In FY 2009 statewide generation of municipal solid waste (MSW) totaled 2,532,370 tons. Nearly one-third of Hawaii's generated waste was recycled, with the remaining amount being landfilled or incinerated.

The State's solid waste diversion rate for FY2008-09 is 35.7%. According to the EPA, the national recycling rate for the 2008 calendar year was 33.2%. The state's goal was 50% waste diversion by the January 1, 2000, based on Hawaii Revised Statutes (HRS) 342G-3(a)(2), which was adopted in 1991. The EPA's national recycling goal is 35%.

I. INTRODUCTION

The Office of Solid Waste Management (OSWM) is required to provide an annual report to the legislature to describe the State's progress toward achieving the waste reduction goal. The report also contains general program information about OSWM programs and the counties' solid waste and recycling efforts.

This report covers activities of both the OSWM and the Solid Waste Section (SWS) conducted during the 2008-09 fiscal year. Both programs are contained within the Department of Health's Solid and Hazardous Waste Branch (SHWB). The SWS is the program responsible for permitting and monitoring solid waste facilities within the state, while planning functions are contained within the OSWM. The OSWM also administers the state Deposit Beverage Container (DBC) Program. Additionally, the OSWM provides technical and programmatic assistance to the counties in their development of solid waste management and recycling programs. The activities of the DBC program are covered in a separate report.

In 1991, the legislature established a waste stream reduction goal of 50% by the year 2000. The OSWM works to enhance the development of county and private recycling programs through a combination of statewide funding mechanisms and statewide guidance and mandates.

II. SOLID WASTE MANAGEMENT

Solid Waste Priorities and Practices

HRS §342G-2 requires the department and the counties to consider solid waste management practices and methods in the following order of priority:

- 1) Source Reduction
- 2) Recycling (to include composting)
- 3) Landfilling and incineration

The first two practices reduce the amount of waste to be either landfilled or incinerated.

As to practices, source reduction, also called "waste prevention" or "waste reduction", means creating less waste. "Reuse", although not included in the list of priorities, means using a product over without first having to reprocess it. The product may be used for its original or intended use, or may be used in a different capacity. "Recycling" is the process by which materials are collected and used as "raw" materials to create new products. Collectively, these methods are sometimes referred to as "waste diversion".

Because waste reduction avoids creation of waste it is inherently difficult to quantify. In some cases, comparisons can be made to waste levels before a waste reduction practice was employed to waste levels afterward. In other cases, an estimate of the amount of waste reduced is all that is possible.

Reuse of products or materials is marginally easier to measure than waste reduction. It is possible to quantify reuse because it involves actual material. Quantification can be made in numerous ways including counting number of individual product units or measuring its tonnage. However, effectively measuring reuse is still difficult because it takes place at so many levels and on a widespread scale. For example, many people regularly reuse plastic containers for

food storage at home or in the workplace. While this particular activity contributes to overall waste reduction, it is impossible to accurately measure. However, some reuse activity is accounted for in the diversion statistics presented in this report. An example of a reuse activity that is quantified is the amount of material that is donated and sold to non-profit organizations such as the Salvation Army or Goodwill Industries.

Recycling is the most easily quantified activity of the waste diversion trio for at least two reasons. First, like reuse, it involves actual material that can be measured. Second, many recycling facilities regularly submit data to the counties for tracking. In addition, most recycling facilities are regulated by the Department of Health under solid waste management regulations. Part V, below, discusses a difference of opinion between the department and the City and County of Honolulu regarding waste to energy activity.

Diversion refers to the combination of reuse and recycling activities. It does not include landfilling, incineration, or waste to energy processes. The diversion rates presented below are based on data collected by the counties. The current diversion rate is composed primarily of recycling activity and a small amount of reuse activity.

The State's current diversion rate of 35.7% is nearly in line with the most recent national statistics. The EPA reported national recycling rate of 33.2% for 2008. The state's goal of 50% waste diversion was set in 1991 and mirrored EPA's recycling goal at the time. The EPA has since revised its recycling goal of 50% by the year 2000 to 35% with no target date specified. This change was made in recognition of the fact that states and municipalities need a broader time frame in which to reach higher waste reduction levels.

Hawaii's commercial recyclers continue to deal with long standing obstacles. Most notable is the high cost of shipping to the Far East or the mainland U.S. where most recycling markets are located. Volatility in recycled materials markets, combined with the relatively small amounts of materials generated in Hawaii also continues to challenge recyclers. The current global economic downturn has placed even greater obstacles to recycling primarily by reducing demand and increasing the costs to transport recyclable materials. Some mainland and overseas recycling markets have, hopefully temporarily, either eliminated or reduced significantly their demand for recyclable material.

Solid Waste Disposal and Diversion Rates

The OSWM reports solid waste disposal and diversion rates by aggregating county collected data with data collected under authority of the solid waste program's permitting system. The state's fiscal year begins July 1 and ends on June 30.

Table 1
Waste Diversion Statistics for FY 2008-09

	Disposal (Tons)	Diversion (Tons)	Generation (Tons)	Diversion Rate
Hawaii	172,431	77,280	249,711	30.9%
Maui	242,580	125,952	368,532	34.2%
Oahu*	1,136,164	671,867	1,808,031	37.2%
Kauai	78,222	27,874	106,096	26.3%
State	1,629,397	902,973	2,532,370	35.7%

* Calendar Year 2008 data

Table 2
Diversion rates for fiscal years 2001 through 2007

FY	05	06	07	08	09
Hawaii	19.1%	25.8%	23.8%	29.2%	30.9%
Maui*	30.1%	30.0%	44.1%	33.1%	34.2%
Oahu [#]	35.0%	41.0%	30.8%	33.4%	37.2%
Kauai	5.3%	11.6%	19.9%	29.6%	26.3%
State	31.0%	36.0%	31.4%	32.3%	35.7%

Notes:

* The large increase in Maui County's diversion rate is due to a single large-scale hotel renovation project

[#] Previous calendar year data

III. OFFICE OF SOLID WASTE MANAGEMENT ACTIVITIES

Beverage Container Deposit Program

A full report on DBC program activities is being submitted to the legislature separately.

Glass Advance Disposal Fee (ADF) Program

The OSWM continues to administer a statewide glass recovery program that is funded through an advance disposal fee (ADF). The department collects the fee from distributors of products contained in glass containers that are not deposit beverage containers. The department then contracts with each county to establish glass buy back programs that divert glass from the waste stream towards recycling. As directed by statute, HRS §342G-84, the funds are distributed to the counties based on de facto population. Each county is allowed enough flexibility to structure its glass-recycling program to maximize recycling of the glass.

The Glass ADF Program has been significantly affected by implementation of the Beverage Container Deposit Program. Beginning October 1, 2004, glass deposit beverage containers were transferred from the purview of the ADF program to that of the Deposit Beverage Container (DBC) Program. This has reduced the number of containers covered by the ADF Program by approximately 80% and has resulted in a corresponding decrease in revenue. The decreased revenue trend has stabilized, which indicates that the transition of glass containers from the ADF program to the DBC program is complete.

The decrease of containers covered by the ADF program is also reflected in the decreased amount of glass collected through each county operated buy back program. The department has reduced the amounts of each of the county contracts in accordance with the decrease in program revenue.

Table 3
County Recycled Glass Tonnages

FY	05	06	07	08	09
Hawaii	1,289	582	401	433*	0**
Maui	2,263	2,040	620	1,000	1,414
Oahu	7,796	1,456	1,171	2,154	2,139
Kauai	754	0	221	0	259
Total	12,100	4,078	2,413	3,587	3,812

*Incomplete as of 12/01/09, Hawaii County still compiling data.

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Revenue and Expenditures of the Glass ADF Program:

Table 4
Glass ADF Revenue

FY	05	06	07	08	09
	\$1,500,015	\$651,746	\$676,011	\$622,215	\$731,115

Table 5
Expenditures for County Collection Programs

FY	05	06	07	08	09
Hawaii	\$298,000	\$71,000	\$56,879	\$832,580	59,390
Maui	\$300,000	\$225,000	\$57,261	\$150,640	57,205
Oahu	\$1,647,000	\$215,000	\$314,363	\$67,740	295,205
Kauai	\$134,000	\$10,000	\$25,577	\$151,650	24,890
Total	\$2,379,000	\$521,000	\$454,080	\$1,202,610	436,690

Construction & Demolition Waste Minimization and Diversion Outreach

The OSWM continues to provide compliance assistance to Hawaii's construction industry, which is comprised of general contractors, subcontractors, builders, developers and other interested parties. The purpose is to promote compliance with State illegal dumping laws established in Chapters 342G and 342H, HRS, and Chapter 11-58.1, HAR, "Solid Waste Control". The OSWM participates in workshops convened by the department's Compliance Assistance Office and also attends General Contractor's Association of Hawaii meetings. OSWM also participates in special meetings coordinated by the Buildings Industry Association and other agencies of the State, such as DAGS and the Strategic Industries Division of DBEDT.

County Solid Waste Management Planning Activity

Statute requires that each county develop and maintain an integrated solid waste management (ISWM) plan. The counties of Kauai, Maui and the City and County of Honolulu each began the process of revising its existing ISWM plan during the 2006-07 fiscal year.

Per statutory requirements, each county assembled an advisory committee as part of its revision process. An OSWM staff member participated in the advisory committee phase of the process as either members of the committee or as resources that committee members could call on for information or guidance.

The County of Kauai concluded its advisory committee meetings in late 2006 and submitted a draft plan for the department's review and comment in late 2007. The draft plan was subsequently revised and the county reconvened its advisory committee in May 2008 to review the revisions. At the close of the fiscal year, the department was awaiting submittal of the final draft plan for review and comment. An OSWM staff planner represented the department on the advisory committee as a non-voting member.

The City and County of Honolulu submitted a draft plan for department review and comment in July 2008. After receiving comments from the department, the City and County's Department of Environmental Services was planning on a holding public hearing to share the plans with the general public and garner comments. At the time of writing of this report, the public hearing was scheduled for December 2008. The department representative participated in the advisory committee as a non-voting member.

The County of Maui concluded meetings of its plan advisory committee in May 2008 and held a series of public meetings and hearings in July 2008 to garner input from the general public. They submitted a draft plan for the department's review and comment in September 2008. The department provided comments on the draft plan in November 2008. An OSWM staff planner represented the department on the advisory committee as a non-voting member.

The County of Hawaii began the process of revising its ISWM plan during the 2007-08 fiscal year and convened its first advisory committee meeting in June 2008. Committee meetings are tentatively scheduled to conclude in April 2009 with submittal of a draft plan to the department to follow shortly thereafter. An OSWM staff planner represented the department on the advisory committee as a non-voting member.

In addition to participation in the revision process, the OSWM is also providing nominal financial support towards each county's planning effort. While it covers just a fraction of plan revision costs, the support is offered to the counties in recognition of state solid waste planning mandates.

IV. SOLID WASTE MANAGEMENT PROGRAM FUNDING

Solid Waste Management Disposal Surcharge

The department collects the Solid Waste Management Disposal Surcharge from the owners/operators of disposal facilities within the state. This includes all municipal solid waste and construction and demolition landfills, as well as the H-Power waste-to-energy incinerator on Oahu. Surcharge revenue is deposited in the Environmental Management Special Fund.

The disposal surcharge is the primary funding source for the department's Solid Waste Section (SWS); and a portion of the OSWM providing partial funding for the Solid Waste Coordinator and Recycling Coordinator. Originally proposed at 75¢ per ton, the surcharge was initially set by statute (HRS §342G-62) in 1993 at 25¢ per ton, and raised to 35¢ per ton in 1997. As

indicated in the table below, surcharge revenue has been relatively stable for the past several years at approximately \$500,000 a year.

The OSWM also contains the state's Deposit Beverage Container (DBC) Program. The DBC program staff and activities operate on a revenue stream that is separate from the SWS and the rest of the OSWM. Those funds are contained in the Deposit Beverage Container Special Fund.

The disposal surcharge is a common funding mechanism for solid waste management programs across the country. Past research has indicated that seventeen states utilize disposal surcharges to fund solid waste management functions; with an average of \$1.43 per ton, and a high of \$3.00 and a low of \$0.35 per ton. The current surcharge is small when landfill tipping fees are taken into account. For example, Hawaii's 35 cents per ton represents less than one percent of the approximately \$90 per ton tipping fee charged at the City and County of Honolulu's Waimanalo Gulch Landfill. The following is a summary of each county's landfill tipping fees and associated charges.

Hawaii County	\$85.00 per ton
Maui County	\$53.00 + \$10.00 recycling surcharge = \$63.00 per ton total cost
C&C of Honolulu	\$81.00 per ton, + 12% recycling surcharge = \$90.72 per ton total cost
Kauai County	\$56.00 per ton

Table 6
Solid Waste Disposal Surcharge Revenue

FY	05	06	07	08	09
	\$490,850	\$535,391	\$565,122	\$564,934	\$537,862

Increasing Costs

Program expenses currently exceed \$600,000 annually, and projections are that costs will continue to increase due mostly to rising salary and benefit costs. Both the SWS and OSWM have been able to maintain positions and operations by utilizing cost savings incurred through position vacancies. However, vacancies are being filled in order to meet workload demands and personnel levels in both programs are now reaching maximum position counts.

The SWS staff of four engineers and four environmental health specialists annually handle approximately 300 permitted facilities; 100 to 200 permit applications; 200 to 300 solid waste complaints; illegal dumping sites; and numerous miscellaneous inquiries annually. Additionally, the revenue situation keeps the OSWM from undertaking other activities stipulated in statute, which include waste reduction, recycling and market development.

Decreasing Revenue

In addition to rising costs the program is facing a potentially major reduction in disposal surcharge revenue unrelated to the economic slowdown. Two transfer stations to process waste for shipment and disposal outside of Hawaii are currently being proposed, the first of which is expected to begin operations by the end of 2009. Current statute exempts the operators of these facilities from paying the disposal surcharge because the waste being handled is to be disposed out of state. The proposed volume of waste to be handled by the first of these facilities slated to begin operations represents approximately \$60,000 in decreased surcharge revenue.

While the amount of waste disposed in Hawaii would decrease; the workload carried by the SWS and OSWM to regulate solid waste facilities would actually increase under such a scenario, causing a further divergence between program revenue and costs. If built and operated at full capacity, the proposed facilities would be capable of shipping out up to 60% of the solid waste currently generated in the state.

V. New Issue: Greenhouse Gasses & Clean Energy

While covered by a separate statute, Act 234, Hawaii Session Laws 2007, greenhouse gas emission reduction will play an increasing role in solid waste management. Methane from landfills and other waste management is a major greenhouse gas emission in Hawaii.

Similarly, energy concerns may affect solid waste management. The Hawaii Clean Energy Initiative seeks to have 70% of Hawaii's energy come from renewable sources by 2030, and landfill methane is a potential energy source to replace some fossil fuel use. There are also statutes, PUC proceedings, and agreements related to renewable energy. The City and County of Honolulu classifies the H-Power Waste to Energy facility as a recycling activity. The City estimates that 65% of Oahu's waste is recycled by including waste to energy use with traditional recycling. The DOH does not concur with this position and notes that Hawaii Revised Statutes (HRS), Ch. 342G does not include incineration as a form of recycling.

These emerging issues are of serious import to both the SWS and OSWM, as they may lead to a redefinition of traditional solid waste management approaches. The collective staff of both programs actively monitors these issues, tracking national and international discussions, and studying how new concepts may be incorporated into both its planning and permitting processes.

VI. Summary

The statewide recycling rate has increased over the past several years and has passed 30%.

Long standing challenges to further increasing the diversion rate remain; namely Hawaii's small market for generating recyclable material, and the high cost of shipping that material to markets.

The OSWM is actively participating in, and partially funding, county solid waste planning efforts.

Funding remains a challenge for the OSWM as revenues levels do not meet program expenditures.

The SWS and OSWM actively track the issues of greenhouse gas emission and energy efficiency as they relate to solid waste management.